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PATENT

Application # 09/685,953

Attorney Docket # 1999-0644 (1014-075)

AMENDMENTS

AMENDMENTS TO THE CLAIMS

1. - 7. (Canceled)

8. (Currently Amended) ~~The communications node of claim 1~~ A communications node, comprising:

a packet switched device that operates using Internet Protocol, wherein the packet switched device manages communication resources; and

a circuit switched device that provides physical switching between a plurality of ports based on one or more commands from the packet switched device, wherein;

the circuit switched device can provide at least one error condition to the packet switched device, and the packet switched device issues instructions to the circuit switched device to handle the at least one error.

9. (Currently Amended) ~~The communications node of claim 8, wherein~~ A communications node, comprising:

a packet switched device that operates using Internet Protocol, wherein the packet switched device manages communication resources; and

a circuit switched device that provides physical switching between a plurality of ports based on one or more commands from the packet switched device, wherein;

the circuit switched device can provide at least one error condition to the packet switched device, and the packet switched device issues instructions to the circuit switched device to handle the at least one error; and

the error condition is a pattern of lost or corrupted data.

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10. (Currently Amended) ~~The communications node of claim 8, wherein~~ A communications node, comprising:

a packet switched device that operates using Internet Protocol, wherein the packet switched device manages communication resources; and

a circuit switched device that provides physical switching between a plurality of ports based on one or more commands from the packet switched device, wherein:

the circuit switched device can provide at least one error condition to the packet switched device, and the packet switched device issues instructions to the circuit switched device to handle the at least one error; and

the packet switched device sends either instructions or notifications to at least one other communications node to handle the error.

11. (Currently Amended) ~~The communications node of claim 1, A communications node,~~ comprising:

a packet switched device that operates using Internet Protocol, wherein the packet switched device manages communication resources; and

a circuit switched device that provides physical switching between a plurality of ports based on one or more commands from the packet switched device, and wherein

the packet switched device sends signals to determine at least one error condition and issues instructions to the circuit switched device to handle the at least one error.

12. (Currently Amended) ~~The communications node of claim 11, wherein~~ A communications node, comprising:

a packet switched device that operates using Internet Protocol, wherein the packet switched device manages communication resources; and

a circuit switched device that provides physical switching between a plurality of ports

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based on one or more commands from the packet switched device, and wherein

the packet switched device sends signals to determine at least one error condition
and issues instructions to the circuit switched device to handle the at least one error; and

the packet switched device sends either instructions or notifications to at least one
other communications node to handle the error.

13. (Canceled)

14. (Currently Amended) ~~The communications node of claim 13, wherein~~ A communications
node, comprising:

a packet switched device that operates using Internet Protocol, wherein the
packet switched device manages communication resources; and

a circuit switched device that provides physical switching between a
plurality of ports based on one or more commands from the packet switched device, and wherein:

the packet switched device handles at least one of managing peer interfaces,
managing external interfaces, managing internal resources, managing faults, and managing
internal faults at the network edge; and

the packet switched device uses at least one of interior or exterior protocols,
Border Gateway Protocol, Open Shortest Path First and Intermediate Systems-
Intermediate Systems signals to discover a network topology.

15. (Currently Amended) ~~The communications node of claim 14, wherein~~ A communications
node, comprising:

a packet switched device that operates using Internet Protocol, wherein the
packet switched device manages communication resources; and

a circuit switched device that provides physical switching between a

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plurality of ports based on one or more commands from the packet switched device, and wherein:

the packet switched device handles at least one of managing peer interfaces, managing external interfaces, managing internal resources, managing faults, and managing internal faults at the network edge;

the packet switched device uses at least one of interior or exterior protocols, Border Gateway Protocol, Open Shortest Path First and Intermediate Systems-Intermediate Systems signals to discover a network topology; and

the packet switched device uses at least one of the network topology and a bandwidth in use in determining the one or more commands.

16. (Currently Amended) ~~The communications node of claim 15, wherein A communications node, comprising:~~

a packet switched device that operates using Internet Protocol, wherein the packet switched device manages communication resources; and

a circuit switched device that provides physical switching between a plurality of ports based on one or more commands from the packet switched device, and wherein:

the packet switched device handles at least one of managing peer interfaces, managing external interfaces, managing internal resources, managing faults, and managing internal faults at the network edge;

the packet switched device uses at least one of interior or exterior protocols, Border Gateway Protocol, Open Shortest Path First and Intermediate Systems-Intermediate Systems signals to discover a network topology;

the packet switched device uses at least one of the network topology and a bandwidth in use in determining the one or more commands; and

the packet switched device sends at least one of the one or more commands to at least one other communications node.

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17. (Currently Amended) ~~The communications node of claim 16, wherein~~ A communications node, comprising:

a packet switched device that operates using Internet Protocol, wherein the packet switched device manages communication resources; and

a circuit switched device that provides physical switching between a plurality of ports based on one or more commands from the packet switched device, and wherein:

the packet switched device handles at least one of managing peer interfaces, managing external interfaces, managing internal resources, managing faults, and managing internal faults at the network edge;

the packet switched device uses at least one of interior or exterior protocols, Border Gateway Protocol, Open Shortest Path First and Intermediate Systems-Intermediate Systems signals to discover a network topology;

the packet switched device uses at least one of the network topology and a bandwidth in use in determining the one or more commands;

the packet switched device sends at least one of the one or more commands to at least one other communications node; and

the at least one of the one or more commands is sent to the at least one other communications node using at least one of signaling via IP packets, resource reservation protocol (RSVP) and Constraint Based Routing-Label Distribution Protocol (CR-LDP).

18. -25. (Canceled)

26. (Currently Amended) ~~The method of claim 19, A method for providing communication paths in an Internet Protocol network environment, comprising:~~

determining, using a packet switched device, how to manage communications resources;

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providing physical switching using a circuit switched device between a plurality of ports based on the one or more commands, and further comprising the steps of:

providing at least one error condition to the packet switched device; and
issuing instructions from the packet switched device to the circuit switched device to handle the at least one error.

27. (Currently Amended) ~~The method of claim 26,~~ A method for providing communication paths in an Internet Protocol network environment, comprising:

determining, using a packet switched device, how to manage communications resources;
providing physical switching using a circuit switched device between a plurality of ports based on the one or more commands, and further comprising the steps of:

providing at least one error condition to the packet switched device; and
issuing instructions from the packet switched device to the circuit switched device to handle the at least one error, wherein the issuing of instructions includes sending either instructions or notifications to at least one other communications node to handle the error.

28. (Currently Amended) ~~The method of claim 19,~~ A method for providing communication paths in an Internet Protocol network environment, comprising:

determining, using a packet switched device, how to manage communications resources;
providing physical switching using a circuit switched device between a plurality of ports based on the one or more commands, and further comprising the steps of:

sending signals from the packet switched device to determine at least one error condition; and
issuing instructions to the circuit switched device to handle the at least one error.

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29. (Currently Amended) ~~The method of claim 28,~~ A method for providing communication paths in an Internet Protocol network environment, comprising:
determining, using a packet switched device, how to manage communications resources;
providing physical switching using a circuit switched device between a plurality of ports based on the one or more commands, and further comprising the steps of:
sending signals from the packet switched device to determine at least one error condition; and
issuing instructions to the circuit switched device to handle the at least one error,
wherein the error condition is a pattern of lost or corrupted data.

30. (Currently Amended) ~~The method of claim 28,~~ A method for providing communication paths in an Internet Protocol network environment, comprising:
determining, using a packet switched device, how to manage communications resources;
providing physical switching using a circuit switched device between a plurality of ports based on the one or more commands, and further comprising the steps of:
sending signals from the packet switched device to determine at least one error condition; and
issuing instructions to the circuit switched device to handle the at least one error,
wherein the issuing of instructions includes sending either instructions or notifications to at least one other communications node to handle the error.

31. (Canceled)

32. (Currently Amended) ~~The method of claim 31, wherein~~ A method for providing communication paths in an Internet Protocol network environment, comprising:
determining, using a packet switched device, how to manage communications resources;

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and

providing physical switching using a circuit switched device between a plurality of ports based on the one or more commands, wherein:

the determining includes at least one of managing peer interfaces, managing external interfaces, managing internal resources, managing internal faults, managing faults at the network edge; and

the determining uses at least one of internal or external gateway protocols, Open Shortest Path First (OSPF), border gateway protocol and Intermediate Systems-Intermediate Systems (IS-IS) signals to discover a network topology.

33. (Currently Amended) ~~The method of claim 32, wherein~~ A method for providing communication paths in an Internet Protocol network environment, comprising:

determining, using a packet switched device, how to manage communications resources;

and

providing physical switching using a circuit switched device between a plurality of ports based on the one or more commands, wherein:

the determining includes at least one of managing peer interfaces, managing external interfaces, managing internal resources, managing internal faults, managing faults at the network edge;

the determining uses at least one of internal or external gateway protocols, Open Shortest Path First (OSPF), border gateway protocol and Intermediate Systems-Intermediate Systems (IS-IS) signals to discover a network topology; and

the determining step uses at least one of the network topology and a bandwidth in use in determining one or more commands.

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34. (Currently Amended) The method of claim 33, wherein A method for providing communication paths in an Internet Protocol network environment, comprising:
determining, using a packet switched device, how to manage communications resources;
and
providing physical switching using a circuit switched device between a plurality of ports based on the one or more commands, wherein:
the determining includes at least one of managing peer interfaces, managing external interfaces, managing internal resources, managing internal faults, managing faults at the network edge;
the determining uses at least one of internal or external gateway protocols, Open Shortest Path First (OSPF), border gateway protocol and Intermediate Systems-Intermediate Systems (IS-IS) signals to discover a network topology;
the determining step uses at least one of the network topology and a bandwidth in use in determining one or more commands; and
the packet switched devices ends one or more commands to at least one other communications node.

35. (Currently Amended) The method of claim 34, wherein A method for providing communication paths in an Internet Protocol network environment, comprising:
determining, using a packet switched device, how to manage communications resources;
and
providing physical switching using a circuit switched device between a plurality of ports based on the one or more commands, wherein:
the determining includes at least one of managing peer interfaces, managing external interfaces, managing internal resources, managing internal faults, managing faults at the network edge;

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the determining uses at least one of internal or external gateway protocols, Open Shortest Path First (OSPF), border gateway protocol and Intermediate Systems-Intermediate Systems (IS-IS) signals to discover a network topology;

the determining step uses at least one of the network topology and a bandwidth in use in determining one or more commands;

the packet switched devices ends one or more commands to at least one other communications node; and

the at least one of the one or more commands is sent to the at least one other communications node using at least one of signaling via IP packets, Resource Reservation Protocol (RSVP) and Constraint Based Routing-Label Distribution Protocol (CR-LDP).